

## AMENDMENTS TO CLAIMS

Claim 1 (Currently Amended) A composition for treating impaired neurological function or treating deteriorating neurological function in the body of a human, comprising effective amounts of:

- (A) at least one agent which promotes synthesis of ATP and/or creatine phosphate in the body;
- (B) at least one antioxidant for scavenging free radicals in at least one pathway in the body;
- (C) at least one agent for ~~normalizing~~ treating or maintaining membrane function and structure in the body;
- (D) at least one agent for ~~normalizing~~ treating or maintaining normal neurotransmitter function in the body;
- (E) at least one agent for down-regulating cortisol action; and
- (F) at least one agent for suppressing activation of apoptotic pathways in the body.

Claim 2 (Previously Withdrawn) A composition according to claim 1, wherein component (A) comprises one or more members selected from the group consisting of co-enzyme Q10, idebenone, taurine, acetyl L-carnitine, nicotinamide adenine dinucleotide, phosphatidyl serine, B-vitamins, vincocetine, oral creatine, cytidine-5'-diphosphocholine, ribose and alpha lipoic acid.

Claim 3 (Previously Withdrawn) A composition according to claim 2, wherein component (A) comprises a combination of oral creatine and ALA in an oral creatine:ALA weight ratio of from about 1:30 to about 2500:1.

Claim 4 (Previously Withdrawn) A composition according to claim 1, wherein component (B) comprises one or more antioxidants selected from the following: idebenone, co-enzyme Q10, vitamin E, ALA, vitamin C, carnosine, tocotrienols, flavonoids, ALC, vincocetine, selenium, lycopene, creatine, arginine, taurine, cysteine, nicotinamide adenine dinucleotide, resveratrol, ginkgo biloba, oligomeric proanthocyanidins, and phenolic antioxidants.

Claim 5 (Previously Withdrawn) A composition according to claim 4,

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wherein component (B) comprises a combination of taurine and cysteine at a taurine:cysteine weight ratio of from about 1:20 to about 60:1.

Claim 6 (Previously Withdrawn) A composition according to claim 1, wherein component (C) comprises one or more members selected from the group consisting of: gamma linolenic acid; highly polyunsaturated long chain fatty acids; CDP-choline; methyl donors; S-adenosyl methionine, antioxidants and sphingosine.

Claim 7 (Previously Withdrawn) A composition according to claim 6, wherein component (C) is a highly polyunsaturated long chain fatty acid selected from the group consisting of: docosahexanoic acid, phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, and phosphatidyl inositol.

Claim 8 (Previously Withdrawn) A composition according to claim 7, wherein component (C) comprises a combination of docosahexanoic acid and phosphatidyl serine at docosahexanoic acid:phosphatidyl serine weight ratio of from about 1000:1 to about 1:100.

Claim 9 (Previously Withdrawn) A composition according to claim 1, wherein component (D) comprises one or more agents selected from the group consisting of: (1) an agent for synthesis of neurotransmitters; (2) an agent for stimulation of production and secretion of neurotransmitters; (3) an agent for inhibition of enzymes used to degrade various neurotransmitter molecules within the region of the synaptic cleft; (4) a re-uptake inhibitor; (5) an agent that facilitates improved binding at the receptor site; (7) an agent for induction of enzymes used to synthesize neurotransmitters; and (8) an agent for augmentation of neurotransmitter receptor sites.

Claim 10 (Previously Withdrawn) A composition according to claim 9, wherein component (d) comprises one or more agents selected from the group consisting of: choline, CDP-choline, phosphatidyl choline, DMAE, amino acids, phosphatidyl serine, vincocetine, hyperfine A, Ritalin, peroxide, soy phytoestrogens, and SAMe.

Claim 11 (Previously Withdrawn) A composition according to claim 10, wherein component (D) comprises a combination of DMAE and huperzine A at a DMAE:huperzine weight ratio of from about 2000:1 to about 67:1.

Claim 12 (Previously Withdrawn) A composition according to claim 1,

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wherein component (E) comprises one or more agents selected from the group consisting of phosphatidyl serine, dehydroepiandrosterone, melatonin, and pyridoxine.

**Claim 13 (Previously Withdrawn)** A composition according to claim 1, wherein component (F) comprises one or more agents selected from the group consisting of: vincocetine, huperzine A, magnesium, calcium channel blockers, resveratrol, pycnogenol, and lycopene.

**Claim 14 (Previously Withdrawn)** A composition according to claim 14, wherein component (F) comprises huperzine A and vincocetine at a huperzine A:vincocetine weight ratio of from about 1:2 to about 1:200.

**Claim 15 (Previously Withdrawn)** A composition according to claim 1, further comprising one or more of the following ingredients:

- (G) at least one agent for suppressing inflammation in the body;
- (H) at least one agent for normalizing or maintaining vascular wall function and structure in the body;
- (I) at least one agent for normalizing or maintaining function of nerve growth factors and/or neurotropic factors in the body;
- (J) at least one agent for suppressing toxic metal ionic effects;
- (K) at least one agent for normalizing or maintaining methyl metabolism in the body;
- (L) at least one agent for normalizing or maintaining metabolism of insulin and glucose in the body; and
- (M) at least one agent for up-regulating activity of heat shock proteins in the body.

**Claim 16 (Previously Withdrawn)** A composition according to claim 15, wherein component (G) comprises one or more agents selected from the group consisting of: COX-2 inhibitors, CDP-choline, phosphatidyl serine, dehydroepiandrosterone, melatonin, pyridoxine, magnesium, gamma linolenic acid, long chain omega 3 fatty acids, insulin-sensitizing agents, antioxidants and vitamin C.

**Claim 17 (Previously Withdrawn)** A composition according to claim 15, wherein component (H) comprises one or more agents selected from the group consisting

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of magnesium, L-arginine, L-taurine, antioxidants, insulin-sensitivity enhancers, long chain polyunsaturated fatty acids, vinpocetine, creatine, choline, betaine, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, folic acid, supplemental potassium, dehydroepiandrosterone, phosphatidyl serine, S-adenosyl methionine, zinc and selenium.

**Claim 18 (Previously Withdrawn)** A composition according to claim 15, wherein component (I) comprises one or more agents selected from the group consisting of estrogenic compounds, idebenone, and propentofylline.

**Claim 19 (Previously Withdrawn)** A composition according to claim 15, wherein component (J) comprises one or more agents selected from the group consisting of desferroxamine, alpha-lipoic acid, zinc, silicon and polyphenolic antioxidants.

**Claim 20 (Previously Withdrawn)** A composition according to claim 15, wherein component (K) comprises one or more agents selected from the group consisting of dehydroepiandrosterone, phosphatidyl serine, S-adenosyl methionine, choline, folic acid, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, betaine, zinc, selenium and creatine.

**Claim 21 (Previously Withdrawn)** A composition according to claim 15, wherein component (L) comprises (a) one or more agents which down-regulate glutamatergic tone and/or (b) one or more insulin-sensitizing agents.

**Claim 22 (Previously Withdrawn)** A composition according to claim 21, wherein component (L) comprises one or more agents selected from the group consisting of huperzine A, magnesium and chromium.

**Claim 23 (Previously Withdrawn)** A composition according to claim 15, comprising: thiamine, riboflavin, niacin, camosine, pyridoxine, folic acid, vitamin B<sub>12</sub>, biotin, pantothenic acid, vitamin C, vitamin E, magnesium, zinc, selenium, chromium, potassium, oligomeric proanthocyanidin, cysteine, taurine, acetyl-L-carnitine, creatine monohydrate, DMAE, choline, inositol, phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, phosphatidyl inositol, docosahexanoic acid, vinpocetine, huperzine A, coenzyme Q10, L-arginine, idebenone, gamma linoleic acid, silicon, alpha-lipoic acid, resveratrol, soy isoflavones, CDP-choline, NADH, DHEA, melatonin, ribose, lycopene, betaine and ginkgo biloba.

**Claim 24 (Currently Amended)** A method for treating impaired neurological

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function or treating deteriorating neurological function in a human suffering from impaired neurological function or deteriorating neurological function, comprising administering for a therapeutically effective period to said human an effective amount of a nutritional supplement composition comprising effective amounts of:

- (A) at least one agent which promotes synthesis of ATP and/or creatine phosphate in the body;
- (B) at least one antioxidant for scavenging free radicals in at least one pathway in the body;
- (C) at least one agent for normalizing treating or maintaining membrane function and structure in the body;
- (D) at least one agent for normalizing treating or maintaining normal neurotransmitter function in the body;
- (E) at least one agent for down-regulating cortisol action; and
- (F) at least one agent for suppressing activation of apoptotic pathways in the body.

**Claim 25 (Previously Withdrawn)** A method according to claim 24, wherein in the composition administered to said human, component (A) comprises one or more members selected from the group consisting of co-enzyme Q10, idebenone, taurine, acetyl L-carnitine, nicotinamide adenine dinucleotide, phosphatidyl serine, B-vitamins, vinpocetine, oral creatine, cytidine-5'-diphosphocholine, ribose and alpha lipoic acid.

**Claim 26 (Previously Withdrawn)** A method according to claim 25, wherein in the composition administered to said human, component (A) comprises a combination of oral creatine and ALA in an oral creatine:ALA weight ratio of from about 1:30 to about 2500:1.

**Claim 27 (Previously Withdrawn)** A method according to claim 24, wherein in the composition administered to said human, component (B) comprises one or more antioxidants selected from the following: idebenone, co-enzyme Q10, vitamin E, ALA, vitamin C, flavonoids, carnosine, tocotrienols, ALC, vinpocetine, selenium, lycopene, creatine, arginine, taurine, cysteine, nicotinamide adenine dinucleotide, resveratrol, ginkgo biloba, oligomeric proanthocyanidins, and phenolic antioxidants.

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Claim 28 (Previously Withdrawn) A method according to claim 27, wherein in the composition administered to said human, component (B) comprises a combination of taurine and cysteine at a taurine:cysteine weight ratio of from about 1:20 to about 60:1.

Claim 29 (Previously Withdrawn) A method according to claim 24, wherein in the composition administered to said human, component (C) comprises one or more members selected from the group consisting of: gamma linolenic acid; highly polyunsaturated long chain fatty acids; CDP-choline; methyl donors; S-adenosyl methionine, antioxidants and sphingosine.

Claim 30 (Previously Withdrawn) A method according to claim 29, wherein in the composition administered to said human, component (C) is a highly polyunsaturated long chain fatty acid selected from the group consisting of: docosahexanoic acid, phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, and phosphatidyl inositol.

Claim 31 (Previously Withdrawn) A method according to claim 30, wherein in the composition administered to said human, component (C) comprises a combination of docosahexanoic acid and phosphatidyl serine at docosahexanoic acid:phosphatidyl serine weight ratio of from about 1000:1 to about 1:100.

Claim 32 (Previously Withdrawn) A method according to claim 24, wherein in the composition administered to said human, component (D) comprises one or more agents selected from the group consisting of: (1) an agent for synthesis of neurotransmitters; (2) an agent for stimulation of production and secretion of neurotransmitters; (3) an agent for inhibition of enzymes used to degrade various neurotransmitter molecules within the region of the synaptic cleft; (4) a re-uptake inhibitor; (5) an agent that facilitates improved binding at the receptor site; (7) an agent for induction of enzymes used to synthesize neurotransmitters; and (8) an agent for augmentation of neurotransmitter receptor sites.

Claim 33 (Previously Withdrawn) A composition according to claim 32, wherein in the composition administered to said human, component (D) comprises one or more agents selected from the group consisting of: choline, CDP-choline, phosphatidyl choline, DMAE, amino acids, phosphatidyl serine, vincocetine, huperzine A, ritalin,

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pergolide, soy phytoestrogens, and SAMe.

**Claim 34 (Previously Withdrawn)** A method according to claim 33, wherein in the composition administered to said human, component (D) comprises a combination of DMAE and huperzine A at a DMAE:huperzine A weight ratio of from about 2000:1 to about 67:1.

**Claim 35 (Previously Withdrawn)** A method according to claim 24, wherein in the composition administered to said human, component (E) comprises one or more agents selected from the group consisting of phosphatidyl serine, dehydroepiandrosterone, melatonin, and pyridoxine.

**Claim 36 (Previously Withdrawn)** A method according to claim 24, wherein in the composition administered to said human, component (F) comprises one or more agents selected from the group consisting of: vinpocetine, huperzine A, magnesium, calcium channel blockers, resveratrol, pycnogenol, and lycopene.

**Claim 37 (Previously Withdrawn)** A method according to claim 36, wherein in the composition administered to said human, component (F) comprises a combination of huperzine A and vinpocetine in a huperzine A:vinpocetine ratio of from about 1:2 to about 1:200.

**Claim 38 (Previously Withdrawn)** A method according to claim 24, wherein the composition administered to said human further comprises one or more of the following ingredients:

- (G) at least one agent for suppressing inflammation in the body;
- (H) at least one agent for normalizing or maintaining vascular wall function and structure in the body;
- (I) at least one agent for normalizing or maintaining function of nerve growth factors and/or neurotropic factors in the body;
- (J) at least one agent for suppressing toxic metal ionic effects;
- (K) at least one agent for normalizing or maintaining methyl metabolism in the body;
- (L) at least one agent for normalizing or maintaining metabolism of insulin and glucose in the body; and

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(M) at least one agent for up-regulating activity of heat shock proteins in the body.

Claim 39 (Previously Withdrawn) A method according to claim 38, wherein in the composition administered to said human, component (G) comprises one or more agents selected from the group consisting of: COX-2 inhibitors, CDP-choline, phosphatidyl serine, dehydroepiandrosterone, melatonin, pyridoxine, magnesium, gamma linolenic acid, long chain omega 3 fatty acids, insulin-sensitizing agents, antioxidants and vitamin C.

Claim 40 (Previously Withdrawn) A method according to claim 38, wherein in the composition administered to said human, component (H) comprises one or more agents selected from the group consisting of magnesium, L-arginine, L-taurine, antioxidants, insulin-sensitivity enhancers, long chain polyunsaturated fatty acids, vincocetine, creatine, choline, betaine, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, folic acid, supplemental potassium, dehydroepiandrosterone, phosphatidyl serine, S-adenosyl methionine, zinc and selenium.

Claim 41 (Previously Withdrawn) A method according to claim 38, wherein in the composition administered to said human, component (I) comprises one or more agents selected from the group consisting of estrogenic compounds, idebenone, and propentofylline.

Claim 42 (Previously Withdrawn) A method according to claim 38, wherein in the composition administered to said human, component (J) comprises one or more agents selected from the group consisting of desferroxamine, alpha-lipoic acid, zinc, silicon and polyphenolic antioxidants.

Claim 43 (Previously Withdrawn) A method according to claim 38, wherein in the composition administered to said human, component (K) comprises one or more agents selected from the group consisting of dehydroepiandrosterone, phosphatidyl serine, S-adenosyl methionine, choline, folic acid, vitamin B<sub>6</sub>, vitamin B<sub>12</sub>, betaine, zinc, selenium and creatine.

Claim 44 (Previously Withdrawn) A method according to claim 38, wherein in the composition administered to said human, component (L) comprises (a) one or more agents which down-regulate glutamatergic tone and/or (b) one or more insulin-sensitizing

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agents.

**Claim 45 (Previously Withdrawn)** A method according to claim 44, wherein in the composition administered to said human, component (L) comprises one or more agents selected from the group consisting of huperzine A, magnesium and chromium.

**Claim 46 (Previously Withdrawn)** A method according to claim 38, wherein the composition administered to said human comprises: thiamine, riboflavin, niacin, carnosine, pyridoxine, folic acid, vitamin B<sub>12</sub>, biotin, pantothenic acid, vitamin C, vitamin E, magnesium, zinc, selenium, chromium, potassium, oligomeric proanthocyanidin, cysteine, taurine, acetyl-L-carnitine, creatine monohydrate, DMAE, choline, inositol, phosphatidyl serine, phosphatidyl choline, phosphatidyl ethanolamine, phosphatidyl inositol, docosahexanoic acid, vincocetine, huperzine A, coenzyme Q10, L-arginine, idebenone, gamma linoleic acid, silicon, alpha-lipoic acid, resveratrol, soy isoflavones, CDP-choline, NADH, DHEA, melatonin, ribose, lycopene, betaine and ginkgo biloba.

**Claim 47 (Previously Withdrawn)** A method according to claim 38, wherein the composition is administered on a daily basis to said human.

**Claim 48 (Previously Withdrawn)** A method according to claim 38, wherein said therapeutically effective period of time is at least three weeks.

**Claim 49 (Previously Withdrawn)** A method according to claim 38, wherein the effective amount of the composition is at least about 1 gram per serving.

**Claim 50 (Previously Withdrawn)** A method according to claim 24, further comprising the step of having the human follow a stress reduction program which is effective in down-regulating the hypothalamic-pituitary-adrenal axis and lower cortisol levels.

**Claim 51 (Previously Withdrawn)** A method according to claim 24, further comprising the step of having the human follow a cognitive retraining program.

**Claim 52 (Previously Withdrawn)** A method according to claim 24, further comprising the step of having the human follow a dietary plan designed to maximize insulin and glucose metabolism.

**Claim 53 (Previously Added)** A composition according to claim 1, wherein component (A) comprises B-vitamins.

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Claim 54 (Previously Added) A composition according to claim 1, wherein component (B) comprises ALA.

Claim 55 (Previously Added) A composition according to claim 1, wherein component (C) comprises methyl donors.

Claim 56 (Currently Amended) A composition according to claim 1, wherein component (D) comprises hyperzine huperzine A.

Claim 57 (Previously Added) A composition according to claim 1, wherein component (E) comprises pyridoxine.

Claim 58 (Previously Added) A composition according to claim 1, wherein component (F) comprises vincocetine.

Claim 59 (Currently Amended) A composition method according to claim 24, wherein component (A) of the composition comprises B-vitamins.

Claim 60 (Currently Amended) A composition method according to claim 24, wherein component (B) of the composition comprises ALA.

Claim 61 (Currently Amended) A composition method according to claim 24, wherein component (C) of the composition comprises methyl donors.

Claim 62 (Currently Amended) A composition method according to claim 24, wherein component (D) of the composition comprises hyperzine huperzine A.

Claim 63 (Currently Amended) A composition method according to claim 24, wherein component (E) of the composition comprises pyridoxine.

Claim 64 (Currently Amended) A composition method according to claim 24, wherein component (F) of the composition comprises vincocetine.

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